

materials against the hearth of the prereduction furnace is a
B1 screw unit that can vary the rotational speed of screw shaft.

B2 54. (Amended) The method for metal smelting of claim 53,
wherein the gas generated in the melting furnace is supplied to
the tubular flame burner of the prereduction furnace after
removing dust therefrom.

55. (Amended) The method for metal smelting of claim 53 or
claim 54, wherein the gas generated in the melting furnace is
stored in a gas holder, and is supplied from the gas holder to
the tubular flame burner of the prereduction furnace.

B3 57. (Amended) The method for metal smelting of claim 56,
wherein the prereduction furnace is divided into (i) a preheating
and drying zone and (ii) a heating and reducing zone beginning
from the raw material charge section side; and the mixture of raw
materials is preheated and dried in the preheating and drying
zone, then is heated and reduced in the heating and reducing
zone.

58. (Amended) The method for metal smelting of claim 57,
wherein the preheating gas is a gas generated in the melting

furnace, a gas discharged from the heating and reducing zone of the prereduction furnace, or a oxygen-containing support gas which was preheated by the sensible heat of one or more of said gases.

B3 59. (Amended) The method for metal smelting of claim 56 or claim 57, wherein the temperature of the preheating gas is in a range of from 100 to 400°C.

B4 62. (Amended) The apparatus for metal smelting of claim 61 comprising one unit of melting furnace and two units of prereduction furnace, the container hoisting positions of the two prereduction furnace sides being located at opposite sides thereof to the raw material receiving hopper at the melting furnace side or to the raw material receiving hopper group.

63. (Amended) The apparatus for metal smelting of claim 61, wherein the container hoist positioned at the prereduction furnace side is a pair to each prereduction furnace.

64. (Amended) The apparatus for metal smelting of claim 61, further comprising a turntable that can place a plurality of containers thereon and by which the plurality of containers can

be successively moved to the raw material discharge opening position of the prereduction furnace and to the container hoisting position by the rotation of the turntable.

65. (Amended) The apparatus for metal smelting of claim 61, wherein the melting furnace is a metal-bath type melt-reduction furnace.

66. (Amended) The apparatus for metal smelting of claim 61, further comprising a driving mechanism of the hoist for hoisting the container, the driving mechanism comprising:

sheaves (Sa₁) and (Sa₂) being located at respective longitudinal ends of the track of the hoist;

a sheave (Sb) being located on the hoist;

a container suspension means being suspended from the hoist in ascending and descending mode;

a sheave (Sc) being mounted to the container suspension means in ascending and descending mode;

a wire-winding drum (Da) for hoisting a container located below the track of the hoist;

a wire rope (Wa) for hoisting container, which wire rope is unwound from the wire-winding drum (Da) and is guided to each sheave, the front end thereof being fixed to an end of the track;

wherein the wire rope (Wa) guided from the sheave (Sa₁) or (Sa₂) is successively guided through the sheave (Sb) on the hoist, the sheave (Sc) on the container suspension means, and the sheave (Sb) on the hoist, then is guided to the sheave (Sa₂) or (Sa₁) , thus the container suspension means is suspended by the wire rope (Wa), and the winding and unwinding action of wire rope (Wa) by the wire-winding drum (Da) makes possible to ascend and descend the container suspension means.

67. (Amended) The apparatus for metal smelting of claim 66, further comprising:

a wire-winding drum (Db) for counter weight use, mounted coaxially with the wire-winding drum (Da);

a wire rope (Wb) which is wound in reverse direction to the winding direction of wire rope (Wa) on the wire-winding drum (Da) and which is guided by a sheave located at upper position than the wire-winding drum (Db); and

a counter weight (Co) attached to the front end of the wire rope (Wb).

68. (Amended) The apparatus for metal smelting of claim 67, wherein there are located each pair of the sheaves (Sa₁) and (Sa₂) positioned at respective longitudinal ends of the track of

834